

Vol. 72, No. 2

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25 cents

# GOOD HEALTH

Editor: JOHN HARVEY KELLOGG, M.D., LL.D., F.A.C.S.

Winter Blessings

The Banana—Its Use in Health  
and Disease

Medical Problems of the Aged

Orange Juice Combats "Flu" and  
Other Winter Infections

The Value of Relaxation

DEVOTED TO HYGIENE AND RACE BETTERMENT  
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PUBLISHERS.

# GOOD HEALTH

Devoted to Hygiene and Race Betterment and the Development of an Aristocracy of Health

Edited by DR. JOHN HARVEY KELLOGG

The Banana — Its Use in Health and Disease <i>by E. E. Wagner</i> . . . . .	38
Digestion of Fats in the Stomach <i>by Dr. John Harvey Kellogg</i> . . . . .	41
John Wesley's Water-Cure Methods . . . . .	43
Medical Problems of the Aged . . . . .	44
Food Concerns Health in Many Aspects <i>by Henry M. Stegman</i> . . . . .	45
From the Editor's Pen . . . . .	46
A Digest of Health Progress . . . . .	50
Healthful Recipes . . . . .	55
The Health Question Box . . . . .	56

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# The Banana—Its Use in Health and Disease

by E. E. Wagner

THE banana is worthy of high rank among the plant products that have influenced the destiny of mankind. Its prolific yield of nutritious fruit and adaptability to a wide range of conditions class it among the group of plants on the cultivation of which the foundations of civilization were built. (Reynolds).

What cereals are to the temperate regions, what potatoes are to the people of the United States, what Indian corn (maize) was to the Indians at the time of the discovery of the New World, that the banana is to the people of the tropics.

In the original home of the banana—India—medical men prescribed it not only for its nutritive, but also for its medicinal properties. The "Dictionary of the Economic Products of India" contains among other numerous extracts, the following statement by Civil Surgeon R. A. Parker: "A combination of ripe banana, tamarind and common salt is most efficacious in dysentery. I have used it in many cases, both in the acute and chronic forms of the disease, and seldom failed to effect a cure."

One hundred and fifty years ago William Wright, in an account in the *London Medical Journal* of "The Medicinal

Plants Growing in Jamaica," wrote that "Plantains and bananas are eaten by all ranks of people in Jamaica." (The plantain is a fruit closely resembling the banana and regarded as a sub-species of it.) "But for the plantains," he continues, the island would scarcely be habitable, as no species of provision could supply their place. Even flour, or bread itself, would be less agreeable, and less able to support the laborious Negro, so as to enable him to do his business, or to keep in health."

In his travels in "Darkest Africa," Stanley found some tribes existing during at least a part of the year solely on the banana, and that he himself found it to be of great value is shown by the following statement: "The Awamba understood the art of drying bananas over wooden gratings for the purpose of making flour . . . . If only the virtues of the flour were publicly known, it is not to be doubted but that it would largely be consumed in Europe. For infants, persons of delicate digestion, dyspeptics, and those suffering from temporary derangement of the stomach, the flour, properly prepared, would be of universal demand. During my two attacks of gastritis, a light gruel of this mixed with milk, was the only matter that could be digested."

The medical officer who accompanied Stanley on the Emin Pasha relief expedition, in Equatorial Africa, also bears witness as follows: "He (Stanley) eats porridge made with banana flour and milk. It is very light and digestible, and has more flavor than arrowroot. It is also very nutritious. We whites have good reason to know this fact now, as *we have mostly lived on banana flour for the past two years.*" Which establishes the fact, now recognized and advocated by nutrition experts, that bananas and milk form a balanced diet supplying all the elements essential for human nutrition.

## The Popularity and Productiveness of the Banana

It is 130 years since bananas were first imported into the United States, thirty bunches being brought from Cuba to New York. The popularity which this fruit has now gained in this country is shown by the fact that in 1929 the total importation of bananas was sixty-five million bunches. The total value of the 1934 importation was over twenty-four million dollars.

The banana plant is extremely productive. It was calculated by Humboldt that its productiveness was 133 times



that of wheat and 44 times that of the potato. One plant may bear from six to fifteen clusters of fruit and single bunches may weigh as much as from 60 to 70 or even 80 pounds.

The bunches are cut when the fruit is mature but still green in color, and it continues to ripen until the process is complete. It will ripen more quickly and completely if left attached to the stem. In the green stage, or until fully ripe, it is, because of its starch content, indigestible unless cooked. In the ripening process the starch is converted into easily digestible natural sugars, chiefly malt and fruit sugars with a small proportion of cane sugar. The sugar of the thoroughly ripe banana is easily absorbed and well utilized.

The ripe banana is about one-fifth sugar, the green one-fifth starch. "It is obvious that more or less starch will be ingested if the fruit is not ripe, that is, if the skin has not begun to shrivel and darken. Raw starch may be singularly irritating to the alimentary tract of man and is at best poorly utilized, whether it be ingested in the form of uncooked potatoes, chestnuts, bananas or other native starchy foods. No one would advise the use of uncooked potatoes; yet many people eschew a thoroughly ripe banana in the belief that this wholesome fruit is rotten when the skin becomes darkened, whereas they eagerly eat the yellow-green, starch-bearing fruit at a stage of incomplete ripeness. 'Green' bananas, like 'green' apples, are unwholesome so long as the starch has not been adequately converted into sugars in the ripening process. But the delicious and innocuous ripe banana should not be made to suffer in its dietetic reputation because of the ignorance of the consumer. Here is a chance for popular education." (*Journal of the American Medical Association*.)

### A Germ-Proof Package

Nature puts up the banana in a sterile container; it comes to us in a germ-proof package,



*Gros Michel Bananas*

the skin of the banana being singularly resistant to the invasion of bacteria. Extensive bacteriological examinations made by Dr. E. M. Bailey showed that even when bananas were immersed in fluids containing cultures of known organisms, there was no evidence of a penetration into the interior. A banana that is properly handled is therefore uncontaminated by dirt or disease-producing germs, even if purchased from a pushcart in a busy thoroughfare. This is of great advantage seeing that the banana is usually eaten uncooked.

The banana has been called "the poor man's fruit" because it is an ever available fresh fruit obtainable at all seasons at a price that brings it within the reach of everybody. It is often cheapest when at its best — when the skin has darkened and the fruit is soft though still firm. The highly satisfying

nature of the banana adds to its economic value.

### The Nutritive Value of the Banana

The banana has a high caloric or fuel value, yielding over 400 calories to the pound. One large banana supplies about 100 calories. It is richer in solids and lower in water content than other fresh fruits. Its high content of easily assimilable sugars makes it a good source of quick energy and provides an excellent means of fatigue recovery.

The following minerals are supplied to the diet by the banana: calcium, magnesium, phosphorus, sulphur, iron and copper. In its iron content the banana is second only to the strawberry. Leitch states that "bananas figure outstandingly among such foodstuffs as are certain to introduce iodine into the human system." Its alkaline



ash contributes to the alkalinity of the blood. The protein and fat content of the banana is too small to constitute a perfectly balanced ration. With the addition of milk, which is rich in protein and fat, it provides a ration that supplies all the nutritional needs of the body.

The vitamin content of the banana is high. It has been found to be a good source of vitamins A, B, and C, and it contains also vitamins G and E. Owing to its vitamin C content, the banana ranks second only to the orange as a preventive of scurvy. Experiments made in India showed that when an animal developed scurvy and was losing weight, the addition of banana pulp to its diet cured and prevented the disease and also enabled the animal to gain in weight steadily.

There is a similarity between the banana and the potato with regard to carbohydrates and minerals. They have practically the same caloric value, but the banana has the advantage over the potato that it can be eaten raw, thus insuring the administration of the vitamins which may be destroyed in cooking. It has been found that bananas baked in the skin retain their scurvy-preventing properties better than when baked without the skin, probably on account of the protective action of the skin against oxidation.

Several investigators have reported that the banana appears to have the ability to stimulate the growth in the intestine of the aciduric type of bacteria and to combat the development of the colon forms. In cases reported by Kahn, this effect was produced in infants in from twenty to thirty-five days. The banana has an antiseptic action on the decomposition products in the intestine. Its value as a regulator of gastrointestinal function may be due to this fact.

It is only in recent years that the banana has been included in the child's diet list. Owing to studies made during the past few years, the fully ripened banana has taken its place as a most valuable source of carbohydrate in the diet of infants

and children. The addition of mashed banana to the milk mixtures of artificially-fed babies is now recommended.

The difficulties inherent in the feeding of bananas to bottle-fed infants are removed by the use of banana powder. This is well tolerated by infants, even in the first weeks of life. In infants so fed, Dr. Haas found that there was a marked acceleration of growth during the first six months. The infants were ruddy, firm and contented, and their teeth, which did not erupt earlier than usual, were hard, white, and had good enamel.

Great improvement was noted in undernourished and underweight school children when, under the supervision of a Nutritional Clinic, each child was given two bananas and two glasses of milk during the school day, in addition to the regular lunch.

### Medicinal Use of Bananas in the Diet

The therapeutic value of the banana is thus summed up by Dr. von Noorden: "Its readily assimilated sugars along with vitamins and minerals make it of value in infant feeding. Its caloric value, added to its vitamin and mineral content, make it of value in the treatment of malnutrition. Its low protein and salt content, along with its high carbohydrates, make it useful in the diet of patients with disease of the kidneys. Its alkaline residue tends to combat acidosis. Its vitamin content is of value in preventing deficiency diseases. Its soft texture and blandness are of value in the treatment of intestinal disorders. Its satiety value and low fat content make it of value in reducing diets in the treatment of obesity."

Of late years the banana has been used with very good effect in the treatment of intestinal disorders, especially sprue, both tropical and non-tropical. In referring to the dietetic treatment of sprue, Barborba makes mention of the banana cure developed in New Orleans, which consists of the daily administra-

tion of from ten to fifteen bananas.

At the Second Pan American Congress a memorandum was presented on the prevention of sprue by bananas. Captain F. Siler of the U. S. Army Medical Corps made the following comment:

"The only particular difference in the diet of the natives of Jamaica and Barbados was that in Jamaica the peasants had bananas and in Barbados they did not. The dietary difference is of interest in connection with Major Ashford's observations on sprue. He noticed that sprue occurred in the cities and towns of Puerto Rico, where the carbohydrate element of the diet was made up of bread, and it did not originate in the country districts where the peasant secured his carbohydrate by eating bananas. In Barbados sprue is very common and bread is the staple carbohydrate food there. In Jamaica sprue is very rare, and the peasants subsist very largely on bananas."

In celiac disease, a nutritional intestinal disturbance of late infancy and early childhood due to inability to utilize fats and carbohydrates in a normal manner, ripe bananas seem to be tolerated perfectly, making it possible to bring about a cure in practically all cases. The fruit diet in the form of banana treatment was first recommended for this disease by American doctors and has since been adopted in children's hospitals in other countries.

"The banana is much more than an agreeable dessert," says Czerny. "There is no substitute for it. Bananas are an excellent food of nutritional value, especially so for children. It is good for the population that this fruit has found its proper place in the nutrition of mankind."

A digest of scientific literature containing nearly 300 abstracts of articles by physicians and nutrition experts concerning the nutritive and therapeutic value of the banana has recently been issued by the United Fruit Company. This article is a brief summary of some of the statements and facts presented.



# Digestion of Fats in the Stomach

*by Dr. John Harvey Kellogg*

IT IS interesting to note the fact that while the principal digestive work of the stomach is to digest proteins, provision is made also for the digestion of starch and fat. Thus, by the co-operation of these several digestive agents, the food may be completely broken down and so prepared for the more vigorous digestive action of the pancreatic juice and the finishing work of the intestinal juice to which the food is later subjected. When large quantities of fat are eaten, the intestinal fluid, consisting chiefly of a mixture of bile and pancreatic juice, may be freely regurgitated and may aid in the digestion of the fat. This regurgitation of bile is most likely to occur in cases of high acidity. The alkaline intestinal fluids aid the digestion of the fat and so hasten its departure from the stomach.

## Functions of the Hydrochloric Acid of the Gastric Juice

The hydrochloric acid of the gastric juice plays a remarkably versatile rôle, as will be seen by the following enumeration of its uses:

1. Activates pepsin. As secreted, pepsin has no digestive activity, but in the presence of hydrochloric acid it acquires an astonishing digestive potency. Pepsin-hydrochloric acid is the only agent by which raw connective tissue can be digested in the body. Flesh meats are often eaten raw and are very rarely

completely and thoroughly cooked. It is evident, then, that in achylia, when pepsin and hydrochloric acid are no longer produced in the stomach, flesh foods should be entirely discarded. It may be mentioned in this connection that in the absence of hydrochloric acid pepsin may be to some degree activated by food acids — citric, malic and tartaric acids. It should also be noted that when both hydrochloric acid and pepsin are absent from the gastric juice, the ferments sometimes may be made to reappear by the introduction of hydrochloric acid or acid protein into the stomach (Taylor). If after the use of hydrochloric acid in this way the ferments do not appear, it is evident that the gastric glands have undergone degeneration. It is desirable that this test be made in all cases of achylia.

2. Activates chymosin. The chymosin, or rennet, of the gastric juice coagulates milk.

3. Regulates reflux of alkaline liquids from the duodenum. In achylia, in which there is no acid in the stomach, the pylorus often remains open and the food passes out more quickly than normal, causing gastrogenous diarrhea. This is promptly relieved by hydrochloric acid taken at meals.

4. Stimulates the secretion of pancreatic juice.

5. Causes contraction and emptying of the gallbladder.

6. Disinfects the food, destroying bacteria and other organisms. The gastric juice does not destroy all bacteria, but it has been demonstrated that most pathogenic or disease-producing bacteria do not survive prolonged contact with normal gastric juice.

7. Stimulates the production of pepsin by the gastric glands.

8. Stimulates the movements of the stomach. Cannon proved that the tonus of the stomach walls, as shown by the pressure within the stomach, was four times as great with acid contents as with neutral contents.

9. Closes the cardiac orifice after the swallowing of food.

10. The hydrochloric acid of the gastric juice protects the body against the poisons eliminated through the bile by precipitating them and thus preventing their reabsorption. It is possible that injury may be done by the use of soda in large doses through the prevention of the precipitation of the bile salts. These salts are irritant poisons. When they are absorbed, they are again excreted. The bile thus becomes more and more concentrated.

The writer is fully convinced that the chief cause of hyperacidity is infection of the duodenum, or duodenitis. Because of this condition, the duodenum is abnormally sensitive, and so when the acid products of gastric digestion are received from the stomach, an excessively



strong reflex action is set up which closes the pylorus so tight that it remains closed for too long a time, thus permitting an accumulation of an excess of acid in the stomach.

According to Taylor, "There are experiments with animals indicating that increased bacterial action in the intestine, aiding the formation of a large amount of fatty acid (also other toxic substances, such as bacterial peptone, etc.), provokes in some way an increased secretion of hydrochloric acid in the stomach." The writer has noted a very constant association between intestinal toxemia and gastric hyperacidity or hyperhydrochloria.

Hypersecretion, or hyperacidity, may be intermittent or continuous. It is a common symptom in connection with hysteria, chlorosis and neurasthenia, so-called nervous dyspepsia, a condition which is probably due to chronic intestinal toxemia.

The acidity of gastric juice is lessened:

1. By fats, cream and oils, especially olive oil when perfectly fresh and free from rancidity.

2. Milk sugar.

3. By the use of soft foods

and purées, when eaten with very little mastication.

4. By bland foods.

5. By a saltless diet.

6. By sweating baths or by profuse perspiration induced by exercise, which causes the elimination of sodium chlorid.

7. By fatigue.

8. By disease-fever, cancer, degeneration of gastric glands (achylia), cachexia, pernicious anemia. Hydrochloric acid is often absent or diminished in Bright's disease, chlorosis and pronounced secondary anemia.

9. About one-fourth of the hydrochloric acid secreted by the stomach is absorbed or neutralized by mucus.

10. The gastric juice may be completely neutralized by a large reflux of fluids, bile and pancreatic juice, from the duodenum.

According to Pavlov, egg albumin has no effect upon gastric secretion. He found the same true of undigested starch, solid fats and hydrochloric acid.

### **Bitters Do Not Increase the Secretion of Gastric Juice**

The observations of Carlson and others have clearly demonstrated that, contrary to popular belief, bitters do not increase the production of gastric juice.

Reichmann and Schoeffer have shown, in fact, that the presence of bitters in the stomach has the effect of lessening the secretion of gastric juice. From these experiments, it is evident that the age-long faith in bitters as a means of promoting digestion has no scientific basis. Bitters hinder instead of aiding gastric digestion.

It has long been known that alcohol increases the activity of the gastric glands, but Chittenden, in his classical research made many years ago for the Committee of Fifty, showed that while alcohol increases the secretion, it at the same time destroys the activity of the gastric juice by precipitating the pepsin. Wines, as well as strong liquors were found to be decidedly detrimental to digestion.

In general, it may be regarded as clearly established by scientific research that the only safe and proper stimulants for the stomach are those normal gastric activators, the flavors, hormones and vitamins which are found in natural foodstuffs, and which are often deficient or lacking altogether in artificial and denatured foods. The best stomach tonics or peptic stimulants are to be found in the unsophisticated products of the orchard, garden and field.

## **The Drink Curse in France**

THE French government has enacted two laws designed to aid the health of the working classes. One limits the working hours to forty per week and the other compels the granting of two weeks' vacation with pay each year to those who have been on the pay roll for at least a year. This legislation called attention to an evil influence on the welfare of the people which the authorities are not trying to abate — the drinking of alcoholic beverages. At a meeting of the Academy of Medicine, the leading organization of its kind in the country, Dr. Sieur declared that the benefit from

the forty-hour law would be greatly enhanced if it were coupled with a reduction in the number of saloons.

A committee appointed at that time reported a month later. It called attention to the fact that in 1926 the Academy had noted the marked increase in the consumption of alcohol after the war. Its published warning had led to no action, and the number of saloons had continued to grow rapidly. In most countries the tax on alcohol is very high and its sale is limited to specially controlled agents. But in France the tax is unduly low and supervision of the bar-rooms is loose.

According to the Paris correspondent of the *Journal of the American Medical Association*, the Academy recommended that the government limit the number of saloons and control the preparation of drinks sold in them; that adult recreation centers be organized in which only non-alcoholic beverages be sold; that more playgrounds be laid out for children, with provision for their physical training; that city gardens be established for working people, and finally that hygienic dwellings be constructed to replace many of the hovels in large cities.—S.



# John Wesley's Water-Cure Methods

JOHN WESLEY, the noted founder of the great Methodist Church, was a keen observer, and being open-minded, and a great traveler, he gathered in the course of his travels a great amount of practical information concerning the care of the body and for the cure and prevention of disease, which he compiled in a little work entitled *Primitive Physick*, from which we quote the following paragraphs:

*For ague or intermittent fever*, "go into the cold bath just before the cold fit" (this method is still in use in Germany and France); or, "drink a quart of cold water just before the cold fit, and then go to bed and sweat."

*For a tertian ague*, it is recommended to "use light and sparing diet on the day between," "or use the cold bath (unless you are of advanced age or extremely weak [a wise precaution, showing no little experience]). But when you use this, on any account whatever, it is proper to go in cool; to immerge at once, but not head foremost; to stay in only two or three minutes (or less at first); never to bathe on a full stomach; to bathe twice or thrice a week at least, until you have bathed nine or ten times; to sweat immediately after it (going to bed), in palsies, rickets, etc."

"Before the cold fit begins, go to bed, and continue a large sweat by [drinking] lemonade for six or eight hours. This usually cures in three or four

times. If it does not, use the cold bath between the fits."

The writer found this method in use among the laity of the middle part of the United States nearly seventy years ago, 1868, and with success in cases in which quinine and other antiperiodics had failed to effect a cure.

*For apoplexy*, "to prevent, use the cold bath, and drink only water."

*For asthma*, "take a pint of cold water every morning, washing the head therein immediately after, and using the cold bath once a fortnight." "For present relief, vomit with a quart or more of warm water. The more you drink of it the better."

*For dry or convulsive asthma*, "use the cold bath thrice a week."

*"To prevent swelling from a bruise*, immediately apply a cloth five or six times doubled, dipped in cold water, and new dip when it grows warm."

*"To cure a swelling from a bruise*, foment it half an hour, morning and evening, with cloths dipped in water as hot as you can bear."

*For a burn or a scald*, "immediately plunge the part into cold water. Keep it in an hour; or if not well before, perhaps four or five hours."

*"To prevent the rickets, tenderness, and weakness [in children]*, dip them in cold water every morning, at least until

they are eight or nine months old."

*For whooping-cough*, "use the cold bath daily."

*For cholera morbus*, "drink two to three quarts of cold water, if strong, or of warm water, if weak."

*For a cold*, "drink a pint of cold water lying down in bed."

*For colic*, "drink a pint of cold water, or a quart of warm water, or [apply] hot water in a bladder, or steep the legs in hot water, a quarter of an hour."

*For hysteric colic*, "use the cold bath. Using the cold bath two and twenty times a month has entirely cured hysteric colic fits and convulsive motions."

*For chronic headache*, "keep your feet in warm water a quarter of an hour before you go to bed, for two or three weeks."

*For headache from heat*, "apply to the forehead cloths dipped in cold water, for an hour."

*For one seemingly killed by lightning or suffocation*, "plunge him immediately into cold water."

*For mania*, "apply to the head, cloths dipped in cold water, or pour cold water on the head out of a teakettle, or let the patient eat nothing but apples for a month."

*For rheumatism*, "use the cold bath, with rubbing and sweating."

*For rickets*, "wash the child every morning in cold water."



For *sciatica*, "use cold bathing and sweat, together with flesh-brush twice a day; or drink half a pint of cold water daily in the morning and at four in the afternoon."

For *stone*, to prevent its occurrence, "drink a pint of warm water daily just before dinner."

For *swelling of the joints*, "pour on the part daily a stream of warm water, or a stream of

cold water one day and warm water the next."

"It is also useful to use the hot bath a few days before you use the cold."

Wesley recommended cool bathing for the cure of nearly all the affections of childhood, all chronic diseases, and many surgical cases.

Although Wesley was not a physician, but simply described

in his work such successful remedies as he found in common use, one can not but note the sagacity and wisdom displayed in many of these recommendations, which in many instances could scarcely be improved upon at the present day, and certainly evince extended and accurate observation of the effects of hydropathic applications.

## Medical Problems of the Aged

THE percentage of elderly people in the population grows steadily. Hence more and more importance attaches to geriatrics, which deals with the ailments of the aged, just as pediatrics is concerned with sickness in children. In various ways, care of those sixty-five and beyond differs from that of the middle-aged. Dr. O. H. Perry Pepper, of the University of Pennsylvania, writes on this subject in the *Clinics of North America*. We must first distinguish, he says, between senescence, which is normal physiologic old age, and senility, which is abnormal pathologic old age.

As the decades roll by, the vertebral column may become curved, resulting in a loss of an inch or two in height. The basic metabolism is usually lowered. Lack of gastric acid is present in fully two-thirds of the very old. The pulse rate tends to settle at about sixty per minute. The brain becomes smaller and increasingly firm. Functional changes range from mere forgetfulness to senile dementia. Loss of from five to ten pounds in weight after sixty seems normal and is beneficial. Ulcer and cancer of the stomach are increasingly rare as age lengthens beyond seventy years.

Chronic bronchitis, often termed senile catarrh, is extremely frequent. Few escape the resulting cough, expectoration and shortness of breath. Pneumonia is very common and is often fatal. Osler called it

"the old man's friend" because it offers a short and usually peaceful death. There is a record, however, of a patient of one hundred and three who recovered from it. Acute infections except pneumonia, influenza and erysipelas, are rare. Very seldom is there chicken pox or measles, but whooping cough may occur after seventy or even eighty, and is more serious than in the young.

Fractures, especially of the neck of the thigh bone, are common but can now be treated far more successfully than in earlier generations. Healing with union has been reported in patients over ninety and even over a hundred. While endocrin function tends to lessen, distinct endocrin diseases are rare. Circulation is apt to be good. This was indicated by a study in France of 300 individuals between the ages of eighty and one hundred. In this country, Willius found forty-five per cent of 700 persons between seventy-five and ninety-six had no evidence of heart disease. One of the most frequent causes of death, however, is heart failure. It is perhaps due to lack of nutrition of the muscle. Often mental confusion, delusions, transitory palsies, etc., improve when the heart action is bettered.

In some respects the aged are fortunate from the health point of view. They suffer less pain and exhibit fewer symptoms of disease than they did in their

earlier decades. In treating patients who are well along in years, the physician should not regard the minor infirmities as inevitable ones which should be borne in silence. Much can be done to give relief, often unexpectedly. Old people react poorly to medicines but may stand surgery well. They absorb drugs slowly and cumulative effect is common. This is especially true of morphin and belladonna. Sedatives may cause excitation, mental confusion and even delirium. Long established habits of eating, etc., should not be disturbed abruptly. Often nursing is more important than doctoring. The aged should not be kept in bed too long for fear of hypostatic pneumonia and of insidious myocardial failure.

Bailey says the elderly exhibit unusual tolerance for serious major surgery. He stresses the importance of the short bed period and of good cheer. In 185 patients ranging from sixty to eighty-four years, the operative mortality was 7.6 per cent. This group included cases of appendicitis, intestinal obstruction, hernia, prostatic disease, cancer and biliary tract disease.

Lack of will to live seems in some cases to determine a fatal outcome. An old person will sometimes simply fade away during convalescence from some mild illness. Longevity is favored by a strong interest in life.—H. M. Stegman.



# Food Concerns Health in Many Aspects

by Henry M. Stegman

A COMPREHENSIVE survey of the relation between nutrition and health was given by Major General Sir Robert McCarrison before the British Medical Association at the inauguration of its section of nutrition (*British Medical Journal*). Half a dozen sets of initials follow his name in recognition of his outstanding achievements in the study of diet in India. He hailed the new departure as significant of the widening appreciation of the importance of proper feeding to the human race. Recent advances in knowledge had led to the adoption of a conception which might be summed up as follows: faulty food, faulty nutrition, faulty function, faulty structure, faulty health, disease.

Food then is "the foundation of health; chief among the armaments of medicine against disease." The protective foods had been discovered centuries ago by certain races in northern India whose physique and health are unsurpassed by any other groups of mankind. Sir Robert then touched on the relation of diet to the nineteen other sections into which the annual meeting was divided. Bacteriology and pathology were concerned because resistance to infections may be greatly reduced by deficiency in vitamins. The structural and functional efficiency of the alimentary tract was profoundly affected by the vitamins. Lack of them might impair the motility of the stom-

ach, with consequent loss of appetite; might restrict gastric secretion and the normal rate of passage of the intestinal residues; might favor the infection of the tract, as witnessed by congestive, hemorrhagic and ulcerative lesions. Further proof was the incidence of gastrointestinal disease, amounting to twenty-five per cent of all ailments, among insured people in England whose diets often had faults of this character.

The endocrin glands were affected by improper nutrition. It had many contacts with obstetrics and gynecology. Need of surgery would be lessened, certainly in the treatment of internal diseases, when the people learn to feed themselves properly and have the means to do so. The triumphs of surgery are often the defects of medicine. No emphasis was required on the relation of nutrition to surgical results, to the healing of wounds, to the mending of fractures and to chronic bone and joint diseases.

Anatomy is concerned, because faulty food induces structural changes. Holt is quoted as follows: "Most of the neuroses of childhood depend entirely upon disorders of nutrition. The headaches, insomnia, disturbed sleep, chorea, habit-spasm, hysterical manifestations and a multitude of others are relieved only by correcting the faulty diet and habits which are the basis of the disturbed condition." Sir Robert says further

that the relation of nutrition to intelligence and backwardness in school children, the mental disorders in pellagra, the interdependence of physical and mental conditions, are other examples of the contacts of nutrition with psychological medicine.

Among the effects on the nervous system of vitamin deficiency are non-inflammatory peripheral neuritis; degenerative changes in the brachial plexus, sciatic nerves, sensory tracts in the periphery of the spinal cord, posterior columns and posterior nerve roots, Gasserian ganglion and, less commonly, in anterior nerve roots and vagus. Night blindness, xerophthalmia and keratomalacia may be caused by faulty diet. Orthopedics has contacts with nutrition which are exemplified in rickets, osteomalacia, fragility of bones, spinal curvature, displacement of vertebrae, diseases of joints and slow and imperfect mending of fractures.

Sir Robert mentioned the case of a child of wealthy parents who had a displacement of the lumbar vertebra. Operation by bone-grafting was suggested to correct the deformity. But a year of proper feeding with rationally directed exercises, wrought a complete cure, as was proved by an x-ray examination.

Deficiency of vitamin A brings changes in mucous membranes which break down the local defenses against infection

(Continued on page 58)



# FROM THE EDITOR'S PEN

## Portland Authorities Move to Suppress the Use of Putrid Meat as Food

SOME years ago the writer was chatting in his office with an eminent sanitary official of a neighboring county with reference to laws for the control of bacterial contamination of food and drinking water. Inquiry was made respecting the standards of purity recognized and enforced. For water, the degree of freedom from colon germs required was one germ in 100 cc. ( $3\frac{1}{2}$  ounces, or half a glassful of water). Four colon germs in a tumblerful of water would lead to its condemnation as unsanitary. Colon germs are always dangerous, no matter what their source. They may cause colitis, appendicitis, abscess of the liver, infection of the kidney, urinary bladder and other viscera, and may give rise to a fatal fever resembling typhoid.

At least 20,000 to 30,000 germs are required to start a serious infection, but water containing three or four colon germs to the glassful today, may have millions tomorrow, and so is unsafe.

The standard for certified milk was 10,000 germs to the cc., or 1,000,000 germs to the glassful. Since the source of the germs in the milk might be the same as that in the water, why permit in one case two germs, and in the other a million? The question was raised, but the only answer found was the fact that the adoption of the same standard for milk as for water would require all milk to be sterilized. And luckily for the public, the practice of pasteurization or sterilization of milk has now become almost universal in this country.

Next was raised the question of a bacterial standard for meat.

It was admitted that no law existed which restricted the number of colon germs which a steak, chop, sausage, or hamburger might contain without being subject to condemnation, although it was known that all uncooked market meats were reeking with colon germs and more or less advanced in putrefaction. "Why, then, do not sanitary authorities make a standard for meat as well as for water and milk?"

Said the official, "A law making such a standard as would make meat as safe a food as is pasteurized milk, would destroy the whole meat business; no legislation or parliament would dare pass such a law."

But the city of Portland, Oregon, has made a start. Rather a feeble one, it is true, since the number of germs permitted is 10,000,000 per cc., the equivalent of more than 1,000,000,000 to a quarter of a pound of hamburger or sausage. Such meat is nothing more nor less than carrion. But it is a start in the right direction, and may lead to some more effective action when the people have become better informed. However, it is possible that the law intended to protect the good citizens of Portland may do them harm, for meat that contains ten million germs today, may easily contain twenty to one hundred millions tomorrow, and may continue to multiply in numbers after being eaten, for ordinary cooking destroys meat germs only in part.

Our readers will be interested in the following paragraphs which we quote from an article by Dr. Elford, Chief of the Food and Sanitary Division of the Bureau of Health, of Portland, which appeared in the *American Journal of Public Health* for December, 1936:

"During the fall of 1933 we sought to determine the bacterial value in testing the wholesomeness of ground fresh meat, especially hamburger.

"This was occasioned by the fact that numbers of people were complaining that this type of food, which they had purchased, was off flavor, if not actually spoiled. Our city ordinance provided penalties for the selling of 'unwholesome' food. We were, however, handicapped by difficulties found in defining the meaning of 'unwholesome.'"

"The ground meat, or hamburger as it was called, involved in this case, showed a bacterial count of 85,000,000 per gm. It was unquestionably bad. The court so found and levied a fine of \$50."

The doctor collected other specimens. One group of twelve averaged more than 18,000,000 to the gram, or more than two billion in a four ounce serving of hamburger.

It must not be supposed that Portland hamburger is worse than that of other cities. Studies of market meats elsewhere in this country and in Canada have shown even higher counts. Practically all uncooked market meats are in a state of active putrefaction. Recently killed meat is tough. It becomes tender only after being "hung" long enough to undergo putrefaction. Many people acquire a taste for so-called "prime beef," which is often so "advanced" that it is covered with a beard of mold an inch long, just such as one may see in a dead calf in a fence corner. The manager of one of the largest hotels in the United States told the writer that his chef was very careful in selecting meat, and never allowed the "beard" to be more than a quarter of an inch long. Another proprietor of a string of hotels stated that he was compelled to trim off and throw away nearly half of the meat he purchased because of mold, slime, and discoloration due to decay. Such meats are tender, juicy, high flavored (*haut gout*, the French say), and much liked



by gourmands, but fit food only for such scavengers as the turkey buzzard and the hyena.

## Winter Blessings

**C**OLD is an enemy, but it is also a friend. Cold depresses if one gets too much of it, but in proper doses it is one of Nature's most powerful vital stimulants.

In the summer time we appreciate the virtues of cold — cold air, cold water, cooling beverages and lotions. How thankful we are for the refrigerator, with its power to arrest the destructive action of germs! How much comfort we owe to the little electric fan which makes a breeze to order! and how we enjoy the air movement stimulated by the rushing automobile or even the rumbling street car, or the air conditioned concert hall or restaurant.

In hot weather we are always looking for a cool place and pay high prices for cool comforts, but in winter when cold is everywhere available and without price, we hide ourselves away in stuffy offices, air-tight bedrooms, houses filled with stagnant house odors, often overheated even above summer temperatures, and breathe over and over again the germ-laden air resulting from our neglects.

Winter has great advantages if we will only take care to make use of them. Here are a few:

*Winter air is clean*, free from dust, free from germs. At least this is true of outdoor winter air. Germs cannot grow in frosty air.

Indoors all sorts of dangerous germs may grow, if properly cultivated by keeping doors and windows closed and overheating the air of living, working and sleeping rooms.

*Winter air is tonic*. The very finest tonic known. Each breath has an extra charge of life, energy and pep in it.

Cold air spurs heart and lungs to finer, fuller action.

Brain, nerves, muscles, stomach, all feel the influence of the new pulsing life awakened by Jack Frost's visitation.

Don't hide away from the cold. Cultivate it. Out-of-door exercise, fresh-air sleeping arrangements, cold fresh air in abundance day and night — this is Nature's most potent vitalizer.

Every breath is a boost toward health.

The "Cold Air Cure" is a rejuvenating remedy that cannot be beaten. It puts youthful vigor into the step and brings back the glow of health to the cheek.

## Allergy May Be Caused By Disease of the Pancreas

**R**ECENT medical research by Oelgoetz indicates the possibility that allergy, or sensitization, to certain foodstuffs, may be due to deficient secretion of the pancreatic juice by the pancreas. In this study, many deficient symptoms were noted. One man had tremendous swelling of the neck when he gorged himself at a banquet. Some had skin outbreaks, others headaches, stomach pains, persistent vomiting, diarrhea, etc. One man had lost sixty pounds in six years, was too weak to work as a barber, and could not sleep on account of stomach distress. In ten weeks he had gained fifteen pounds and was very vigorous. Three months later his normal weight had been restored.

No ill effects were noted even when very large doses (up to fifty or seventy grains each) were given.

Extract of the pancreas was administered with the idea that the allergy was caused by the absorption of undigested protein. It was thought that pancreatic juice given in large doses, through its absorption into the blood stream might digest the absorbed protein and thus cause it to disappear. It was reported that improvement occurred within a very short time, and that by continuing the treatment, the susceptibility to allergy disappeared.

## The Insidious Approach of Chronic Disease

**T**HE vital reserve, or factor of safety, in the human body is a matter of the utmost importance. Ignorance concerning this highly essential factor in the economy of the body is responsible for a vast number of sudden failures in health and even life. Nature provides for each important vital function of the body a large reserve; that is, capacity very much greater than is absolutely necessary for immediate use. For example, we make use in ordinary breathing of less than one pint of air at each breath, but the capacity of the lungs is sufficient to enable us to breathe out and in ten times this amount, eight or ten pints, or at least one gallon. It is because of this that a person is able to hold his breath for half a minute or more. It is said, indeed, that the pearl divers of some of the South Sea Islands are able to hold the breath for three minutes.

The kidneys ordinarily eliminate two or three pints of liquid excretion, but they sometimes pour out eight or ten times this amount.

The heart usually beats sixty or seventy times a minute, but not infrequently beats for hours and even days at a rate of one hundred twenty or more. The writer once felt the pulse of a patient whose heart was beating over three hundred beats a minute.

This margin of safety, an essential provision against emergencies, easily leads to a mistaken conclusion which is responsible for a vast amount of human wreckage. A man acquires the habit of smoking and seeing no immediate results of a destructive character, he concludes that it does him no harm and feels that it will be safe to continue the habit until he feels some ill effects. Often the writer has been told by smokers to whom he sought to give information respecting the evil effects of tobacco, "Of course, I wouldn't



smoke if it did me harm, but so long as I feel no injury, it will be safe enough for me to continue smoking. Whenever I find that it is doing me harm, I will stop."

Unfortunately, the victim of bad habits usually does not appreciate the fact that he is being damaged until his vital reserve is completely exhausted.

This principle applies to nearly all bad habits. The injury people suffer from the use of tea and coffee, meat-eating, overeating, neglect of vitamins, a sedentary life, and other unbiologic habits, is not immediately apparent, but is nevertheless indelibly fixed upon the body, slowly impairing its integrity and lessening its vitality, and preparing the way to destructive changes which will ultimately lead to a breakdown of the heart, lungs, liver, kidneys or some other vital part.

This is true particularly of such injuries as arteriosclerosis or hardening of the arteries. Gy. of Paris, and other observers, have found that rats exposed to the fumes of tobacco for a few minutes several times a day, soon develop hardening of the arteries, although they appear to be in usual health. In a few months, the arteries become hardened by a deposit of lime, Nature's method of defense against nicotin and other blood poisons.

Dr. Keen, an eminent Philadelphia surgeon, in postmortem examinations made during the World War, found evidence of arterial disease in forty per cent of all the men whose bodies he examined, although they were all under thirty years of age.

In examinations made by the Life Extension Institute of hundreds of clerks employed in large banks, and apparently in good health, there were only three out of a hundred who did not show some definite symptom of disease.

Examinations of conscripted men during the World War showed degenerative changes of the kidneys of ninety per cent of persons who were over forty

years of age, and nearly half as large a percentage in men twenty years of age, or less.

Harmful habits are like a slow burning fire; while the damage done may be so small as to be almost imperceptible, every moment something is being destroyed which can not be replaced, and a knowledge of this fact should lead to the complete abandonment of a bad habit the moment injuries resulting from it are appreciated.

## The Laughing Cure

IT has long been known that laughing aids digestion. A hearty laugh shakes the stomach and churns its contents. The happy mental state associated with laughter stimulates the flow of the digestive juices and keeps the gastric and intestinal muscles at work pushing the food along the thirty-foot tube in which it is prepared to be made into blood and tissue. Hence, the old adage, "Live and grow fat." Don't discuss troubles at the dinner table.

## Orange Juice Combats "Flu" and Other Winter Infections

THE millions of minute white cells, or leucocytes floating in the blood stream are one of the body's chief means of defense against the germs which cause "flu," pneumonia, and other winter infections. When the temperature of the blood is lowered by chilling, the ability of the blood cells to capture and destroy invading bacteria is greatly lessened. In consequence, these enemies of life and health find ready access to the body, and if the number attacking at one time is sufficiently great, they may obtain a foothold by multiplying and becoming dispersed throughout the body or concentrating in some vital organ, may give rise to grave disease and even death.

It has become generally known to observing physicians that a state of high resistance to infection is associated with a

pronounced alkalinity of the blood, by the lowering of which resistance is diminished. Fruit juices of all sorts increase the alkalinity of the blood, notwithstanding the presence of citric acid, since the citric acid absorbed into the blood stream soon disappears, being utilized like sugar and other carbohydrates, while the soda and other alkalies present in considerable amount remain to neutralize acid secretions, and so raise the alkalinity of the blood.

Orange juice is not only one of the efficient means of introducing into the blood stream these natural alkalizing substances, but it also helps to raise resistance by supplying vitamin C, the anti-scorbutic vitamin, in unusual abundance. Richness in alkalies and vitamin C is one of the chief virtues of the Florida orange. This virtue of the orange, in fact, is one in which it has almost no rivals.

Some physicians recommend the use of bicarbonate of soda for alkalizing the blood, but a chemical remedy of this sort should be relied upon only when nothing better is available, since it is far inferior to the alkalies and vitamins which Nature provides in our normal foodstuffs, particularly in fruit juices.

The Florida Citrus Fruit Exchange has been criticized for calling attention to orange juice as "a most effective way to build up resistance against 'flu'." Who ever heard of a healthy person being injured by drinking all the orange juice his appetite or his thirst called for? Is there danger of getting an overdose of vitamins? Dr. Sherman of Columbia tells us that a surplus of vitamins promotes growth and improved nutrition. His rats, fed several times the ordinary amount of vitamins, were larger, stronger, sleeker and in every way handsomer rats than the average.

The writer can not conceive of any harm likely to result from the rather free use of superlatives in the descriptions of orange juice by citrus promoters, especially since no complaint is being made



about the advertising copy sent out by the Meat Board of Chicago, and the syndicated articles artfully worded to make people believe that they need more meat, that they may live on an exclusive diet of meat without injury.

A just complaint might also be made against the Chicago packers for broadcasting an "Eat-More-Meat Week" in mid-summer, the most inappropriate time of the whole year for increasing the consumption of meat, the only motive of which, one can imagine, is to secure the transference of some of the stored-up corpses of bees and pigs from the Chicago warehouses to the stomachs of American citizens, so as to make room for more carcasses of steers, sheep and other cattle, when the cattle killing season arrives a little later. Every intelligent physician knows very well that the average person is already eating too much meat.

And what about campaigns to increase the consumption of coffee, the advertisements of cola beverages which are ruining the health of thousands of youth and inoculating school children with the caffeine habit before they get to the end of their teens?

The country can stand a whole lot of excess enthusiasm for orange juice and other fruit juices, fruits and greens, the essential value of which has been pointed out in recent years by nutrition laboratories, but which the common people have only just begun to learn about.

## Long Life Possible Notwithstanding Adverse Heredity

HEREDITY is known to be an important factor in long life. But if your parents died young, you do not need to lose hope for a prolonged existence. An Austrian investigator, Dr. E. Freund, for many years collected data concerning people between the ages of seventy-

five and one hundred. He had detailed information about one hundred of them. As quoted in the *Journal of the American Medical Association*, he found that only two of them came from long-lived families, while a large number had lost both parents early. Affliction with serious ailments like tuberculosis, articular disorders, biliary troubles, rheumatism, influenza, dysentery or pneumonia, or major surgical operations, does not necessarily prevent long life, nor does an existence marked by much and severe mental and physical strain.

Preference for a fat diet was rare. Those who chose it also partook of generous amounts of green vegetables and fresh fruits. Many ate meat only two or three times a week. Foods prepared with milk were favored evening meals. Many stressed careful chewing of food. There was no agreement as to whether rest or exercise should follow eating. An important factor seemed to be the temperament, and particularly the way in which the individual reacted to unpleasant happenings. Only one admitted a certain irritability, but said it never lasted long.—S.

## Man's Physical Superiority

MAN IS greatly inferior to many other mammals — the elephant, the buffalo, the horse, and many others — but there is no mammal that possesses so much physical strength in proportion to its weight as does man. According to Pitkin and Rubner, one pound of human flesh possesses energy equal to four pounds of the flesh of an ox, an elephant, or a horse; but the gorilla has not yet had a chance to show what he can do. A famous naturalist who, many years ago, made a careful study of the vegetarian gorilla in his native jungles, reported that a full grown gorilla has the strength of ten men.

The superiority of human muscle as a source of energy, is shown by the fact that a man

can easily outwalk a horse. Weston, the famous pedestrian, used to tire out two or three horses in his twenty-four hour walking stunts.

## The Great Importance of Vitamins

OUR KNOWLEDGE of the important place filled by vitamins in the dietary is still limited, but it is sufficient to make it highly important that every bill of fare should be prepared with definite reference to its vitamin content.

We hope to be able to give our readers within a short time some more definite information which will serve as a reliable guide to practical balancing of the diet for vitamins since it has become clearly evident that balancing of the bill of fare for protein, fats, starch and even lime and iron and other food minerals as well as bulkage will not suffice for the maintenance of health and efficiency. Vitamins are the ignitors of energy production, and, in fact, of nearly every vital function. Without them life is inefficient, miserable and of brief duration. Study the vitamin content of foods and whenever you eat give thought to vitamins.

## The Body a Generator of Electricity

BY THE aid of a recently perfected instrument which can measure an electrical current as small as one two hundred thousandth of a volt, Yale scientists have shown by many thousands of tests that every living thing generates electricity in quantities that can be measured. Each species appears to produce its own special pattern of electrical effects, and every variation that occurs in the processes of the living organism is reflected in changes in the electrical pattern. By the aid of this new means of studying life processes, the need of which has long been recognized, it is believed that many new and important facts will be in due time discovered.



# A DIGEST OF HEALTH PROGRESS

## Vitamin C Needed in Rheumatism

THE relation of vitamin C to juvenile rheumatism was studied by a group of scientists at a children's hospital near London and their findings reported in the *Lancet*. They had 107 active and 86 convalescent cases, with 64 controls. All received the same amounts of orange juice and other sources of the vitamin daily. The control subjects excreted in the urine more than the usual amount of vitamin C, while the active cases excreted less than half as much in proportion.

It was reasoned that in rheumatism the need for the vitamin is increased and the body's store is called upon and depleted to more than the usual degree. Other researches indicated that when a patient is in an infective or feverish condition, there is an unusual demand for this vitamin. To what extent it has a curative effect has not been determined.

The group at the children's hospital also tested 42 cases of surgical tuberculosis in the earlier stages of the disease and 46 cases of quiescent surgical tuberculosis. All the active cases showed a subnormal excretion of C, but all the quiescent ones were above the standard.

Juvenile rheumatism is often associated with poverty and hence has been thought by some authorities to have a dietetic origin in many instances. Glover says: "Rheumatism is largely avoided if plenty of the citrous fruits are taken, especially if lime or lemon juice is taken in water, along with green vegetables and an increased amount of water. I find that heart trouble of rheumatic origin often disappears by including the aforesaid in the dietary." The English writers quoted believe that liberal amounts of vitamin

C are helpful both in preventing and in curing rheumatism.

It has long been known that orange juice has value as a curative of rheumatism because the food alkalies which it contains neutralize excretory acids and so aid in maintaining the normal alkalinity of the blood. Every rheumatic may advantageously make use of the juice of six or eight oranges daily.

## Best Source of Vitamin D

COD LIVER OIL is extensively used to supply vitamin D to children but there are grave objections to it. Tests indicate that it is less effective in preventing rickets than irradiated cholesterol. These were made by a group of physicians connected with the University of Toronto and are described in the *Journal of Pediatrics*. Cholesterol is chemically related to ergosterol, which, irradiated, has been widely given to prevent rickets.

Originally, cholesterol was tried on rats and chickens, and successfully. The Toronto experiments for five winter months fed seventy-seven infants with irradiated cholesterol and seventy-four with cod liver oil, while seventy-five had no vitamin D medication. The incidence of slight or mild rickets was lower in the cholesterol than in the cod liver oil group. By March nearly one-third of the infants receiving no vitamin D had active rickets. But all were completely healed by the daily administration of 300 units of D in the form of irradiated cholesterol.

## Meat Eating and High Blood Pressure

THE influence of diet on high blood pressure was studied by Dr. Edmund W. Klinefelter in 600 patients between the ages

of forty and sixty-five, with special reference to the consumption of meat, fat, salt, water, fruits and vegetables. He divided them into five classes as they were heavy consumers of these kinds of food, fruits and vegetables being classed in the same group (*Medical Record*).

First he considered 210 patients who were ten pounds or more overweight. Of these 103 who had a diastolic pressure of ninety or over, the most numerous class (83) were the heavy meat eaters; the heavy fat consumers came next (78); the extensive salt consumers numbered 69, while the lowest total (50) was of heavy users of fruits and vegetables. Of course an individual often appeared in more than one class — that is, might eat liberally of meat and fat and salt. Among the 107 persons with a diastolic pressure under ninety, the tendency was reversed. The most numerous class (65) were the fruit and vegetable eaters.

Of 300 patients who were within ten pounds of normal weight, the vast majority had a pressure under ninety (268). Among 90 individuals who were ten pounds or more underweight, 85 had a pressure under ninety. Of these only ten were heavy meat eaters, while 50 inclined toward a vegetarian diet. It will be seen how overweight tends to be associated with high blood pressure. Dr. Klinefelter found that the consumption of meat, salt, fat and water was thirty per cent greater in those having high blood pressure than in the other class, while fruit and vegetable consumption was twenty per cent greater in those having low blood pressure.

Thirty of the overweight subjects who had high blood pressure but gave no other evidence of disease, were placed on diets for three years. One-third ate liberal amounts of food, especially those rich in meat, fat, salt



and water. The second third had a diet low in calories but relatively rich in meat and fat and rich in salt and water. The third set had a diet low in calories but rich in fruit and vegetables. Meat, fat, salt and water were restricted. At the end of the period, the first group had increased from an average overweight of 29 pounds to 43 pounds; the average blood pressure rose from 95 to 105; the second set from an average overweight of 27 pounds, fell to an average underweight of 3 pounds; the third class lost an average of forty pounds and the average blood pressure fell from 95 to 82. On diet number one, two individuals developed evidence of active kidney irritation.

Dr. Klinefelter believes that the seriousness of constipation associated with hypertension has not received enough consideration. Death sometimes occurs from cerebral hemorrhage when severe strain is exerted in the effort to move the bowels. There is a rise in blood pressure during defecation, the extent depending on the amount of strain put forth.

### Possible Injury from Popular "Cold" Remedies

**A** WARNING against indiscriminate local applications for colds is given by Dr. Clyde A. Heatly in the *Journal of the American Medical Association*. He says that such medications in treating diseases of the upper respiratory tract should be restricted for the most part to acute infections. In chronic conditions such treatments may be carried on for a long period before a serious underlying infection or new growth has been discovered. The resulting loss of time may lead to grave or even fatal consequences.

It has recently been proved that many familiar local remedies are positively destructive of epithelium and favor infection by impairing the activity of the cells. The commonly used

nasal oils containing liquid petrolatum, eucalyptol, menthol, camphor, merthiolate and thymol all definitely slow or paralyze ciliary movement. The silver colloids, mild protein silver and neosilvol have the same effect and also destroy epithelium.

Ephedrine sulphate, one per cent in a physiologic solution of common salt, seems the most efficient means for reducing nasal congestion, promoting or restoring ciliary activity and destroying harmful organisms. Nasal douches may bring on inflammation of the middle ear.

Chronic rhinitis includes such a wide variety of causes that it requires the attention of a specialist. Local medication plays a minor rôle.

### Exercise Better than Drugs

**P**HYSICAL measures are largely replacing medicines in the care of mental patients. At the Public Health Congress in London, one physician told of an experience with a group of sixty female inmates of a hospital. They were of the restless, overactive type and had been receiving sedative drugs. But when they had an hour of informal exercise or play, followed by an hour's walk in the evening, they were able to sleep naturally. In a few months there was a saving of about \$75 on narcotics. The advantage to the health of the women could not be calculated.

Several speakers told of the benefits from giving recreation and amusement to such patients. In the Devon Mental Hospital seventy-five per cent of the inmates had some employment. In addition to this therapy there were drills, games, dancing and walks into the country for small groups. Interward competitions were organized. Radio and moving pictures were essential in every such institution but must be controlled. Films which reacted on the emotions might do great harm. Concerts, card games

and many other sorts of entertainment could be organized.

An association has been formed in England to give mental patients a holiday at the seashore. It has four homes and in 1936 these were visited by 1050 persons from hospitals, reports the *Lancet*. The days of the straight-jacket are happily past and gone.

### Weight Decrease a Remedy for Cardiac Failure

**O**BESITY is known to put an extra burden on the heart. Tests held by Doctors S. H. Proger and H. Magendantz, of the Tufts College School of Medicine, indicate that reduction from normal weight may greatly benefit patients with cardiac failure. They report their findings in the *Archives of Internal Medicine*. Six subjects were selected.

After treatment by rest and digitalis, the diet was decreased until a loss in weight of about ten per cent had been effected. There was a further slowing of the heart rate, a decrease in the blood pressure, in the respiratory rate, and in the cardiac work and size of the heart. Four of the patients showed considerable clinical improvement from the diet treatment. In one the benefit was moderate.

### Irritant Factors in Tobacco Smoke

**T**HE tobacco manufacturers are advertising their particular brands as devoid of irritating properties which they tacitly admit for the products of their rivals. They believe that the average smoker is not much concerned over the remote results of smoking, such as heart disturbances, tobacco blindness or thrombo-angitis, but wishes to avoid the immediate effects on his mucous membranes. Dr. Emil Bogen (*California and Western Medicine*) considers these irritant factors. In his exhaustive review of "Tobacco and



Physical Efficiency," Schrumpf-Pierron simply states that "smokers" laryngitis is too well known to require description," while Dr. Wingate Johnson, admits that "most inveterate smokers show marked congestion of the pharynx, and many either clear the throat or cough habitually, regardless of the brand smoked."

Nicotin probably plays a subordinate rôle in the local irritation. Puerto Rican cigarets, which have a low nicotin content, are yet regarded as highly irritating. Evidently denicotinizing cigars does not render them harmless. They still contain pyridin, which is more irritating and volatile than nicotin.

Another ingredient, ammonia, probably accounts for most of the irritation to the conjunctiva so noticeable in a small closed room where much smoking is done. The carbon monoxid content of the smoke may be to blame for some headaches or other systemic symptoms. Substances associated with tobacco tar may also cause some irritation.

This effect can also be laid to formaldehyd, acetaldehyd and furfural. Chemicals added to the tobacco to prevent its drying out rapidly may also be irritants.

Smoke from a cigaret remains fairly cool at first, but reaches the body temperature when half the cigaret has been consumed. It grows rapidly hotter after that. As the stump is burned, painfully hot smoke, laden with revolatized nicotin previously condensed in the stump, pours forth. Accordingly a cigaret-holder, with its constant temptation to smoke further down, may lead to actual burns from hot smoke, as well as to greater absorption of nicotin and other volatile substances.

### Aspirin Injurious

THE habit of taking doses of aspirin whenever a slight headache, pain or soreness in the joints, backache, or any one of a dozen other unpleasant symptoms is experienced, is becoming

so common it is necessary for frequent attention to be called to the fact that this drug is by no means so innocent as it is generally supposed to be. It is, in fact, capable of doing much injury. It has long been known to be a heart depressant, producing grave effects when habitually used for a long time.

*The Journal of the American Medical Association* recently called attention to the fact that aspirin causes a great and rapid loss of the body's store of vitamin C, the amount of vitamin discharged through the urine becoming two or three times the normal.

### Precautions against Diabetes

DIABETES is so serious a health problem that the New York Diabetes Association has been formed to aid in combating it. Brief leaflets have been issued giving information about various phases of the disease. In *Preventive Medicine*, Dr. Herman Lande discusses the precautions which should be taken against it. The part of heredity is now generally accepted. Hence persons in whose family it has appeared should be on the lookout for it. They should especially beware of obesity. Between seventy and eighty per cent of diabetics are overweight. Among insured individuals, 136 per 100,000 of the obese develop the ailment, as against 6 of the underweight. The susceptibility increases directly with the extent of the overweight.

There is more diabetes among women than among men; the death rate from it in persons over forty-five years of age is nearly three times higher among married and widowed women than among single ones. This indicates that motherhood is a predisposing factor. The removal of an infected gallbladder or the relief of biliary obstruction may produce a marked improvement of the diabetic status, or in rare instances, restore normal carbohydrate tolerance.

Exercise helps glucose utilization. In half the cases, the onset of diabetes is not accompanied by symptoms. Hence urinary and blood sugar examinations should be made at regular intervals after the fourth decade. These should be after a full breakfast, as mild diabetes might be overlooked in fasting blood.

### Coffee Damages the Teeth

THE NORWEGIANS, according to a letter from Norway recently published in the *Medical Record*, drink more coffee and suffer more from bad teeth than any other people in the world. The Norwegians use an average of thirteen pounds per capita of coffee every year.

Among the children of rural communities, less than one child in twenty has perfectly sound teeth, and in Bergen, the second largest city in Norway, the proportion of children showing sound teeth was only one in fifty. At least two-thirds of the children in this Scandinavian country use coffee regularly and quite a percentage use little or no milk.

### Quick Cure for Sprain

A SPRAIN might keep an acrobat from his daily performances. So these athletes have been accustomed to apply alcohol compresses with steam to the affected part. This gives local anesthesia; since pain is no longer felt, active exercise can be resumed. Thus limberness is assured. Two Vienna physicians have adopted this principle in the treatment of mild sprains but have each used different medications. Dr. H. Kraus freezes the region with ethyl chlorid. The patient can then perform the movements which pain had previously prevented. This exercise is carried out for ten to twenty minutes at the clinic, being repeated several times. Then the skin is greased and the man is told to



follow the program at home three or four times a day, using the alcohol and steam compress for anesthesia.

Slight cases, according to *Modern Medicine*, recover in a day or two; more severe ones in a week. Dr. Kraus declares that in 2,000 cases he found that the usual remedies for sprain were useless. These included compresses, hot air, bandages, fixation and elastic massage.

## Cow's Milk Sometimes Injurious to Children

WHILE milk is recommended as an important protective food by nutritional authorities, it disagrees with a considerable number of children. A study along this line was made by Dr. D. A. Williams and is reported in the *British Medical Journal*. A certain proportion of the children of Cardiff, Wales, refused to drink milk, which is served in the schools. One hundred and fifty were asked why they declined this food, a parent or guardian also being asked about the presence of allergy in the family. Eighty-eight of the children declared that they became sick if they took milk. Some suffered from vomiting, some had headaches, abdominal pains, asthma or eczema. All but one had a personal or family history of allergy. Thirty-six subjects either said that they had never drunk milk or that it caused them no trouble. Allergy appeared in the personal or family history of all but four. Some little ones disliked the school milk because it was pasteurized, and some refused it for reasons not connected with health. Of forty children who took milk regularly without ill effects, only ten per cent had a personal or family history of allergy.

Out of 496,542 children in the London County Council schools, 85,447 did not buy milk at school. More than a third of them said they had a distaste for milk. Dr. Williams suggests that this aversion may be an allergic manifestation of a pro-

tective nature. There should be no attempt, he believed, to make all children drink milk. Abstinence for a long period might overcome sensitization.

There are several excellent substitutes for cow's milk, one or more of which should be given to children who do not tolerate cow's milk. Malted Nuts is well known and has been in use for more than forty years, during which it has saved the lives of hundreds of infants who were sensitized or allergic to ordinary milk.

A milk prepared from the soy bean has been used in China and Japan for hundreds of years. It is now available in this country, either freshly prepared, condensed, or in powdered form. Very palatable and wholesome milk may be prepared from almonds, filberts, or hazel nuts.

## Hay Fever May Be Caused by Molds

POLLEN is commonly accepted as the cause of hay fever. But spores of molds may also bring on this trouble, as is indicated by the researches of Dr. Samuel M. Feinberg, of the Northwestern University Medical School, Chicago. He presents his findings in the *Journal of the American Medical Association*. He noticed that a number of his patients had attacks of hay fever and asthma which did not correspond to the prevalence of pollens. At such times there might however have been a heavy amount of mold spores in the air.

Some of these persons had pollen skin tests and gave negative results. No benefit was derived from treatment with pollen extracts. But all gave positive skin tests to fungi. Twenty-eight were treated by specific mold desensitization and twenty-three had satisfactory relief. Four had a benefit of about fifty per cent and one was not helped at all.

Corroborative evidence came from Galveston, Texas. When winds blow over the neighboring swamps toward the city, the

mold count in the air rises very high and certain hay fever victims have an attack of their trouble. They give positive results to skin tests with molds and can be desensitized. This discovery may explain why pollen treatment sometimes fails in hay fever.

## Place of Bran in Nutrition

A SURVEY of the nutritional significance of bran has been issued by the Council of Foods of the American Medical Association and printed in the *Journal*. Bran amounts to about twelve to fifteen per cent of the grain. Before being packaged and sold as a breakfast food, it is subjected to varying processes. Malt syrup, sugar and salt are generally added. Bran is rich in iron. Bunge long ago showed that bread made from the whole wheat contained about twice as much iron as ordinary white bread. Dr. Mary Swartz Rose and her collaborators found that the iron of bran was somewhat more effective in the production of hemoglobin in anemic rats than iron-equivalent quantities of egg yolk or liver.

The protein content of bran averages about seventeen per cent. It is utilized to the extent of about fifty per cent when the article is fed in moderate amounts. The vitamin B complex is also present but not in large quantities. About one-third of the total carbohydrates is digestible. The cellulose is little affected by passage through the alimentary tract and hence has a laxative effect. Cowgill and Anderson found that bran adds to the weight of stools and increases the number of bowel movements daily. Its fiber resists decomposition in the body more than the fibers of many ordinary foods.

Bran and other rough articles of diet should not be taken by persons who have recently undergone operation on the stomach or intestine or who suffer with ulcer, carcinoma or



other organic disorders of the digestive tract. In spasticity of the colon, a bland diet is more effective in controlling constipation than a rough food. Some well individuals do not tolerate bran, especially if given in large quantities.

## Prevention of Sinus Troubles

**S**INUSITIS is a common disease which causes much distress. Efforts to cure it take many lines, medical and surgical. Dr. Rea E. Ashley (*Southwestern Medicine*) believes that we should pay more attention to prevention than we do. He declares that a deficient and unbalanced diet, metabolic and endocrine disturbances, allergy, failure to establish adequate aeration and drainage during a common cold, play an important part in the development of sinus troubles. Use of alcohol and tobacco, swimming and diving, bad ventilation, lack of sunshine and poor living conditions may also predispose to an attack.

Dr. Ashley believes that the great increase in allergic children is due to the substitution of animal for mother's milk. "Any child who receives from six to eight overwhelming doses of foreign animal protein each twenty-four hours over a period of months or years, is likely to become sensitive to that protein, and then his lowered threshold is apt to render him more susceptible to other protein sensitizations."

## Electricity for Facial Neuralgia

**T**IC douloureux is an extremely painful form of facial neuralgia. It is attended by sharp, shooting, burning feelings like an electric shock, and is described as being worse than the worst headache. The distress centers in the forehead. Some victims of it have been driven to suicide. Dr. Benjamin Ulanski, of the Jefferson Medical College, Philadelphia, after

experiments covering four years, announced to the meeting of the American Congress of Physical Therapy, held in New York, that he had found a remedy which relieves these pains. He employs a sinusoidal current, stepped up to three times the speed of the ordinary household current.

Of the sixty-five persons on whom it was tried, fifty-six were aided. Freedom from pain lasted from a few months to more than three years. Treatment of tic douloureux by medicines has not yielded very favorable results.

## Long Illness from Eyelash Dye

**V**ARIOUS cases of poisoning of the ocular tissues by eyelash dye have been reported medically. The local symptoms are swelling of the lid, chemosis of the conjunctiva with stringy mucoid discharge, necrosis of the cornea, intense burning and pain. The general symptoms are dizziness, nausea, vomiting, sleeplessness, extreme nervousness, rapid pulse and fever. One patient died. Dr. Aaron Brav tells of the experience of a woman whom he treated (*American Journal of Ophthalmology*). She suffered severely and corneal necrosis developed. This was cauterized and a month after the application of the dye, the patient was able to come to the doctor's office without a guide. Two weeks later she was almost cured.

## More Trichinosis from Cooked Pork

**M**EDICAL literature continues to give attention to trichinosis as its prevalence forces itself on the attention of physicians. Dr. Charles J. Stettheimer in *Colorado Medicine* reports twelve cases occurring in Denver in two families of Italo-Americans. One group is especially interesting because six persons were made sick by eating *cooked* pork.

When bacon was bought of the grocer, two sons in the family ate it uncooked, being in a hurry to go to school. The six other members of the household ate the cooked article, but all eight became ill. An eighteen-year-old daughter was in such serious condition that oxygen had to be administered for four days. Her partial recovery was long drawn out. All are infected for life, since there is no means of cure.

The second family bought pork from a peddler and converted it into sausage meat. They sampled the food at intervals while seasoning it and also ate some of the finished product raw. All twelve cases were infected.

In accordance with studies by Augustine, the Federal meat inspection authorities now require that all muscle tissue pork to be used in products which are to be eaten raw must be held for twenty days at a temperature not above five degrees, or be thoroughly heated to 140 degrees, to insure the killing of all trichinae. Of course this law will not affect the numerous hogs which are butchered on farms or elsewhere outside of regular slaughterhouses. Furthermore, it will not apply to bacon, which is not eaten raw ordinarily, but may still harbor the parasites after cooking, as was shown in the Denver cases. Tests have proved that it takes a long time for heat to penetrate meat; so the center of a roast thought to be thoroughly cooked may not reach a temperature sufficient to kill trichinae.

Ransom studied 1,550 cases reported from 1842 to 1914 and found that 240 died, a death rate of sixteen. In 320 cases reported in the last five years, there were 19 deaths, a mortality of six per cent. The diagnosis is often very difficult. Of a series of thirty-five cases, only eleven were identified at once. In the others no less than twenty-two different diseases were suggested as possible causes of the illness.



# Healthful Recipes

## SWISS LENTIL SOUP

2 cups lentils      2 tbsps. flour  
2 quarts water      2 tbsps. butter  
1 medium-sized onion      2 tps. Savita

Soak the lentils overnight. Cook until tender and press through a colander. Slice the onion, brown in butter, and add to the lentil purée. Add more water if necessary to make of proper consistency. Add the seasoning and thicken the soup with the flour. Cook for ten minutes. Salt to taste.

## PROTOSE AND VEGETABLE STEW

3 cups diced potatoes      ½ cup chopped onion  
1½ cups diced carrots      3 pints water  
½ cup diced turnips      1 tsp. salt  
½ cup diced parsnips      1 pound Protose  
   ½ pound Nuttolene  
   2 tbsps. butter  
   1 tps. Savita

Clean, scrape and dice the vegetables. Add the water, butter and Savita, and cook until the vegetables are tender. Add the diced Protose and Nuttolene and serve when well heated.

## PARSNIP BALLS

1 egg      3 cups mashed parsnips  
3 tbsps. melted butter      2 tbsps. lemon juice  
1 tsp. sugar      1 tsp. salt  
1 cup toasted crumbs

Beat egg, add 1/3 cup bread crumbs, melted butter and mashed parsnips. Add salt and mold into balls. Roll the balls in the remainder of the bread crumbs and bake in buttered pan. Serve with tomato sauce.

## SPINACH SOUFFLE

3 eggs      2 tbsps. butter  
¼ cup flour      ½ tsp. salt  
1 cup cooked spinach      1 cup milk

Make a sauce of the flour, salt, butter and milk. Rub the spinach through a colander and add

to this the White Sauce. Beat the egg yolks until thick and creamy, add to the mixture, and fold in the stiffly beaten egg whites. Turn into a buttered baking dish, set in a pan of hot water, and bake in a slow oven fifteen to twenty minutes. Serve immediately.

## LIMA BEAN LOAF

1 cup dried lima beans      2½ tbsps. butter  
2½ cups bread crumbs      1½ tps. salt  
1 tps. chopped parsley      ¼ tps. powdered sage  
   3 eggs

Put the beans to soak overnight, or for a few hours. Drain and put to cook in boiling water. Let cook slowly until tender, but not soft enough to lose their shape. Drain and shake over the fire to dry. Melt the butter and stir in the bread crumbs (taken from soft part of the loaf). Add the chopped parsley, salt and sage. Beat the eggs and mix with the beans. Fold in the buttered crumbs, turn into a buttered loaf pan and bake until nicely browned.

## CABBAGE DELICIOUS

¼ large head cabbage      ¼ cup cream  
1 tps. butter      1 egg  
1 tsp. salt      1 tps. lemon juice

Cook cabbage until tender. Add salt, cream, butter, beaten egg and lemon juice. Mix together and pour into buttered baking dish. Bake in a moderate oven until set.

## SMYRNA SALAD

½ cup cottage cheese      6 figs  
2 tbsps. mayonnaise      1 cup grated American cheese  
6 Maraschino cherries      2 tbsps. Maraschino cherry juice  
   6 leaves lettuce  
   6 halves of pears

Garnish salad plates with lettuce. Cut one-half pear into two sections. Arrange on plate so as to hold a fig. Slit the fig

and stuff with a mixture of cottage cheese and chopped Maraschino cherries. Arrange in center between pear sections. Mix American cheese with mayonnaise and cherry juice. With pastry tube decorate each piece of pear with three rosettes.

## CITRON APPLES

Select a few tart apples of the same degree of hardness. Peel and core. Place a few bits of chopped citron in each apple, and fill the cavity with sugar. Place the stuffed apples on a flat earthen dish, with a tablespoon of water in the bottom. Cover closely, and bake until perfectly tender, but not until they have fallen to pieces. Serve hot or cold, with cream.

## APRICOT WHIP

1 pound dried apricots      1 cup whipping cream  
3 tbsps. sugar      1 egg white

Wash the apricots thoroughly and soak in sufficient water to cover. Let stand over night and cook until soft. Put through a colander and add the sugar. Beat the egg white until stiff and fold into the apricot pulp. Whip the cream and put a spoonful on top of each serving.

## LEMON CORNSTARCH PUDDING

2 eggs      1 cup sugar  
4 tbsps. cornstarch      2 lemons  
   1 tps. butter

Beat the yolks of eggs in a pudding dish and add the sugar. Dissolve the cornstarch in a little cold water and stir it into two cupfuls of actively boiling water. Cook fifteen minutes, then add the juice of the lemons, with a little grated peel. Turn over the eggs and sugar, beating well and bake about fifteen minutes. The beaten whites of the eggs may be used to meringue the top. Serve hot or cold.



# THE HEALTH QUESTION BOX

## Coffee and Meat

F. O. W., Missouri, asks: To a young, normally healthy person, which is the most injurious, the use of coffee or meat?

*Answer.*—This question cannot be answered categorically. The harm from coffee and from meat depends chiefly upon the quantity used. Coffee and meat are both harmful and in much the same way. Meat contains uric acid, fourteen grains to the pound, a highly detrimental waste product. Coffee contains uric acid in the form of caffeine in the proportion of four grains to the cup. It is probable that coffee drinkers actually consume in the form of coffee more uric acid than meat eaters, but the difference would probably not be great. Both coffee and meat are harmful in other characteristic ways. Both are exceedingly unwholesome and should be universally discarded. The combination is doubly bad.

## Replace Sugar by Honey

B. L., New York, asks: How far can I go in substituting strained honey for sugar? It is just as palatable to me.

*Answer.*—You may go as far as you please. Cane sugar is quite unnecessary as an article of food. It may be wholly eliminated from the bill of fare without injury. Of course carbohydrate of some sort is needed, since a sugar known as dextrose, which the body makes from some carbohydrates, such as malt sugar, milk sugar, and starch, is essential to health and even life.

## Sour Stomach

T. S., Michigan, asks: I have long suspected that I suffer from acid stomach. How can I make sure?

*Answer.*—The contents of a healthy stomach are always acid during digestion. The acidity is not due to souring or fermenta-

tion but to the presence of hydrochloric acid, a natural constituent of the gastric juice. The acidity which you experience is due to contractions of the stomach, which carry some of the acid contents upward to the lower part of the esophagus. This portion of the alimentary canal is sensitive to acids, while the stomach is not. It is quite likely that disease of the gall-bladder may be associated with your troubles which, in general, begin in the colon.

## Iron in Drinking Water

E. M. B., Texas, asks: When there is so much iron in the water that it makes a deposit in the pitcher just standing overnight, would you advise drinking ten glasses of it every day?

*Answer.*—Iron is entirely harmless in the quantities in which you find it in drinking water. It is not utilized by the body. It simply passes along as foreign matter like particles of bran or raspberry seeds or anything of that sort. It does no harm at all. As a matter of fact, when the water stands exposed to air, the iron that is in solution is likely to be deposited as iron rust.

## Irregularity of the Heart

L. D., Wyoming, asks: What is the cause of irregularity of the heart, and what would you recommend?

*Answer.*—Irregular beating of the heart, especially the occurrence of extra beats and the dropping of beats, are conditions the full significance of which can only be interpreted by a skilled specialist in disorders of the heart. When the irregularities of the pulse are due to diseased conditions existing in the heart itself, they are of grave significance. But when the heart itself is sound, the irregularities being induced by reflex disturbances from other organs, recovery may be expected when

the cause is removed, and even in cases in which the cause cannot be removed, if the disease is not progressive, the disordered heart's action, although it may continue for many years, may not lead to any serious result.

Among the most common causes of irregular heart action are the use of tobacco, tea and coffee.

Removal of the cause is about the only treatment required. The writer has often seen this symptom disappear almost at once on the discontinuance of the use of tea, coffee or cigarettes. Lying down, with an ice bag over the heart for an hour twice a day, is sometimes useful.

## Wry Neck — Torticollis

W. P., New York, asks: What should be done for a wry neck?

*Answer.*—This disease is sometimes congenital but it is more often an acquired affection. It is exceedingly annoying but not always painful. Occasionally the muscles on both sides are affected. A skillful orthopedic surgeon should be consulted. Sometimes the difficulty may only be overcome by hot applications, massage, and careful training. These measures are more successful in cases in which the trouble is intermittent and not continuous.

## Rheumatism

G. T. F., Ohio, asks: Do you think a diet mostly of cereals, oatmeal, milk and bran bread could have a tendency to enlarge the joints of my finger? They are tender to the touch but not often painful. I have not eaten meat or rich food for many years. I am seventy years old, but many of my friends of my age have escaped large joints, which my doctor tells me come with age.

*Answer.*—Oatmeal is highly acid. When very freely used, all cereals have a tendency to in-



duce an accumulation of acids in the body. This would tend to the production of rheumatism. Would advise you to make your diet consist more largely of potatoes and other vegetables. Eat cereals, breakfast foods, bread, etc., very sparingly.

### Neuritis

S. H. E., New Jersey, asks: What is the cause of neuritis? What treatment do you recommend?

*Answer.* — There are many causes — diseased tonsils, diseased teeth, diseased gallbladder, and other focal infections. The cause must be sought and removed. The colon is the probable cause in many cases in which other causes appear to be obscure. Change of the intestinal flora and cure of the intestinal toxemia are generally efficacious in such cases.

### Diet in Bright's Disease

F. M., Texas, asks: What diet would you recommend for a person who has albumin in the urine?

*Answer.* — The diet for such a person should be low in protein; that is, meats of all sorts should be avoided, and eggs should be used very sparingly, not more than one yoke daily. The whites should be avoided. It is better to substitute milk for both meat and eggs. A highly laxative diet is important. It is very necessary that the colon should be thoroughly emptied every day, and the flora should be changed completely and kept changed, so that intestinal putrefaction may be wholly suppressed.

### Psoriasis

M. C. E., Illinois, asks: What is the cause of psoriasis? Is there any cure or treatment?

*Answer.* — Allergy is often the cause of psoriasis. A cure may usually be accomplished within a reasonable time by change of the intestinal flora and by application to the skin of sunlight or the electric arc light. A person who has psoriasis is in a state of low resistance and is liable to various infections.

## Residence in the Tropics

**B**USINESS calls many persons from temperate to tropical regions. They are likely to suffer a gradual deterioration in health. Two years is estimated as probably the longest safe period for the average man to live in a hot climate. The effect is apparently worse on women and children than on men. Children tend to become weak and apathetic after about three years of age and it is said that initiative and application become poor after the tenth year. Englishmen in the tropics will make great sacrifices to have their children brought up in the home land.

C. K. Drinker, in an article in the *Journal of Industrial Hygiene and Toxicology*, says that the basal metabolism usually falls when one removes to the tropics. Height is apparently attained more readily than in temperate regions and obesity is uncommon. The tall, thin person is best suited for lands near the equator, having a maximum surface for heat loss in relation to body weight. In adults, weakening of the will power with laziness and gradual development of vicious habits are often noted.

To succeed in the tropics white men must be willing to undergo severe moral discipline. They should eat moderately of simple foods, drink plenty of water, take daily exercise, avoid alcohol absolutely and get adequate sleep.

We should not neglect to call attention to a possible source of error in the conclusions stated in the above paragraphs. It must be remembered that the observations made upon persons living in the tropics have not been conducted in a critical manner but are, rather, casual in character. In fact, the writer's personal observations tend to show that one may live as healthfully in the tropics as anywhere else, provided care is taken to cultivate biologic habits, avoiding many things which may be harmful in any

climate, and especially in a hot climate.

The active life which is encouraged by a temperate or cold climate promotes circulation, digestion, bowel action, sound sleep and normal elimination, the opposite of which is true of a hot climate; but if one living in a hot climate takes special care to avoid imposing unnecessary burdens upon his eliminative organs and other emunctories, he may enjoy as good health in a warm climate as in a cold one.

In the writer's opinion, most of the troubles which white people experience in removal from a cool or temperate climate to the tropics, are due to a continuation in the tropical climate of the habits of living to which they had been accustomed, the bad effects of which are emphasized and much aggravated in the tropics.

The writer recalls many cases of missionaries who had returned to the United States from some hot country in which they had resided for a few years, believing that their health had broken down because of the hot climate, but who, on returning to their foreign fields, after having learned how to live in a biologic way, have reported that by meticulously following the rules of physiologic living in diet and other essentials, they were able to enjoy excellent health, and suffered no ill effects from climatic conditions.—H. M. S.

**E**XPERIMENTS conducted at the Catholic University of America showed that smoking dulls the sense of taste for sugar and salt. Six habitual smokers gave up the practice and found they could taste solutions of sugar only about half as strong as their former limit. Salt could be detected in solutions about two-thirds as strong as before. Two of the individuals who smoked on the sly were betrayed by their blunted taste for sugar (*Science News Letter*).

In Canada it is unlawful to advertise a "cure" for obesity.



## Food Concerns Health in Many Aspects

(Continued from page 45)

and may be of localized or widespread distribution. Malnourished weakly and ill-conditioned children are peculiarly susceptible to inflammatory states of the nose, ear and throat. Concerning tuberculosis and nutrition, the example was cited of the Papworth Village Settlement. The children born there are the offspring of parents with tuberculosis, yet in twenty years not one of them has contracted any clinical form of the disease. The families have all dwelt together. This achievement has been brought about by adequate nutrition, which maintains the child's resistance to infection, and by the absence of mass dose infection.

A score of skin manifestations can be traced to faulty diet. In therapeutics, the physician in planning the patient's food formerly thought solely in terms of the local pathological condition, whereas now he thinks chiefly in terms of general physiology, of the good he can do the patient as a whole. The experience was cited of the nursery school at Deptford, where children from the slums, weak, ill-nourished and ill-conditioned were cared for. They came with all sorts of diseases but after a few years were cured of almost all their ailments. Even in well-to-do families there was not always a proper choice and use of health-giving foods. Indifference, neglect and the weak indulgence of children on the part of parents foster tastes and habits detrimental to normal growth, nutrition and health. Education of the people was an urgent necessity. The address was printed in the *British Medical Journal*.

It, assuredly, is only custom which can diminish in us that natural horror of cutting the throat of an animal which we have fed up for butchery.—Voltaire.

## Ancient Bacteria

**S**TUDIES by Moodie and other scientists have shown that bacteria, or germs, are probably among the oldest of all living things, and eminent Scandinavian scientists many years ago suggested that bacteria may have been brought to this earth by meteorites arriving from distant planets. Geologists find bacteria in the oldest rocks which contain remains of plants or animals.

These early bacteria, however, were not protected from diseases. They were active in removing the calcium, or lime, from sea water, and by depositing it, assisting in the formation of limestone and rocks. Similar bacteria are found in the Atlantic Ocean, engaged in the same kind of activity at the present time, building coral reefs. Bacteria have also been found in the coal of France.

Notwithstanding the great numbers of bacteria in ancient times, they were not associated with disease, as are most of the bacteria which exist at the present time. They were entirely harmless. Whether or not they are descendants degenerated and became originators of disease, is not known.

Doctor Moodie tells us in an interesting paper published some years ago, that "the earliest animals were free from disease, although they were subject to injuries incident to the life of any creature. The larger attacked the smaller then as now. Infection of the injured part did not take place in the early periods of animal life, and it is only after the great Coal Period that infected wounds are found.

"The Coal Period witnessed the earliest widespread condition of bacteria and fungi, and possibly witnessed the beginning of disease, although there had been previously a mild form of pathology due to the action of parasites. The first diseased conditions preserved, are, of course, not the earliest mani-

festation of disease, since disease is doubtless the result of long ages of struggle between the two contending forces of Nature. The early animals were so highly immune to attack by bacterial organisms that it was only after the races of animals began to grow weaker through age that disease was able to make any headway. . . . .

"Disease was not present in the earliest times of the earth's history and it did not become very active until the present age of the earth had been attained by nearly three-quarters of its duration. That is, disease has only been active during the last one-quarter of the earth's history, so far as animals and plants are concerned. The incidence of maladies began slowly, was introduced gradually, and has been an important factor only within relatively recent times. . . . .

"The action of early parasites on the shells of ancient animals is our oldest evidence of disease. The action of these organisms resulted in the formation of the oldest tumors. Diseased conditions of a very interesting type were caused in the early history of animal life by poisoning of the waters in which the animals lived. This resulted in a thickening of the shell, a twisting of the spirals of snails, or a diminution in size of some forms, certain of the pauperized individuals being only one twentieth their normal size.

"The origin and development of disease may be traced to a large extent from the evidences of pathology found on the fossil bones of the ancient races of man and extinct animals, as well as from the associations of the earliest animals. That early man may have acquired some of his diseases from the coexisting animals is evident from the fact that the men of the stone ages, the cave bears, and other cave-inhabiting animals were often afflicted with the same maladies, as may be seen from the diseased appearance of their bones."



## The Value of Relaxation

**A**PPPLICATION of effort in one or more directions during the allotted working portion of each day is a constant drain on vitality, energy and strength.

No matter which extreme of effort drains the fountain of strength in a greater or less degree, a stated interval in the particular round of duties or employment is necessary. What is needed in this interval is something different, a variety of program, a change. Specifically, if you work indoors, remain outdoors as much as possible during your leisure time. Sleep outdoors, play outdoors, take all your recreations outdoors. Practice deep, regular breathing; get all the fresh air you can. If your indoor activity is strenuous from a muscular standpoint, indulgence in forms of recreation that employ a different set of muscles is the type of change that you need. If your indoor activity is strenuous from a mental standpoint, indulgence in forms of recreations that develop your muscles is the proper variety you should seek, remembering that only unused muscles have a tendency to complain when harshly used after long inactivity. In choosing a place to relax, pick out one that gives you the particular kind of change that you need.

The whole secret of relaxation at any season of the year is an absolute change, which cannot help but give you rest and recreation because of its difference. Change your program with wisdom, select with care and indulge yourself wisely in pleasures that appear to you to give you the change that is most necessary to permit the continuance of the standards that require application of vitality, energy and effort when routine compels you to forego desired varieties of pleasure. Assume a frame of mind that permits you to enjoy yourself to the utmost, be contented and cheerful and happy, and alert to the things that surround you in the differ-

ent atmosphere in which you find yourself for the time being. Return to that continuity of duty or employment you have selected for yourself, or which has been thrust upon you, with no regrets, with anticipation and with delight, knowing that you have restored your mental and physical resources, and feeling that you are full of vim, vigor and vitality and courage born of that knowledge.

### The Value of Fresh Air

Fresh air in the winter time is healthful. Cold, exhilarating fresh air in the winter time is beneficial. Take adequate precautions to protect the body with warm, not uncomfortable clothing; wear good footwear. Spend a part of each day, if possible, in the open air, exercising sanely. If you cannot, or do not like skating, tobogganing, snowshoeing, and such sports, you can get just as much fresh air and just as much physical benefit by walking. Bear in mind that the best kind of air is fresh air, and that no matter how scientifically perfect artificial means of ventilation are within doors, the perfection of natural, fresh air cannot be excelled. When you are outdoors, practice deep, regular breathing. Sleep regular; do not overeat. Do not hibernate because the weather is cold, or because snow is on the ground. Snow purifies the air surrounding it. — *Monthly Bulletin*, Boston Health Department.

### The Vice-like Grip of Rum

**I**F PEOPLE could realize the terrible hold which alcohol obtains on its addicts, there would be fewer moderate drinkers and more abstainers. Dr. Harry H. Wilson read a paper on the management of alcoholism before the California Medical Association (*California and Western Medicine*). He said a cure was relatively simple and assured where the will was still predominant and some incentive or anchor was present. But in

the second degree of intoxication the individual has become pathologic, is a liar, completely untrustworthy, cheats and steals even from himself, has lost incentive and self-respect. Success in this field follows only where there are strong supportive factors.

The third stage required institutional care and the hope of rehabilitation was slight.

In discussing the paper, Dr. Aaron J. Rosanoff said he had had more than two thousand cases of chronic alcoholism in a third of a century. He did not believe there was such a thing as a cure for chronic alcoholism. About ten or fifteen per cent of the cases did recover but such recovery was due to a more than usually favorable soil in the temperamental make-up of the individual. As alcoholism continues, it invariably leads to further deterioration of temperament and character, and thus a vicious circle is established until a point is reached where prognosis becomes hopeless.

### Human Bites Are Dangerous

**"CLEAN** as a hound's tooth" was one of Theodore Roosevelt's striking similes. By way of contrast, the human tooth is not at all clean. One surgeon declares that the human mouth is apparently the dirtiest of all mouths. He is Dr. Thomas McGrain Lowry and he writes in the *Annals of Surgery* on the surgical treatment of human bites. He says that in the frankly infected bite there is a foul discharge and a creeping phlegmonous process which frequently extends rapidly up the arm despite the sometimes heroic measures adopted to stop it. He has himself seen two deaths from such infections.

In the Beekman Street Hospital, New York City, 122 human bites were cared for in two and a half years. All were treated with fuming nitric acid. The pain is severe but does not last long. The time of cure varied from two to a hundred days. —S.



## Care of the Eyesight

**“WHAT** the Community Should Know about Failing Eyesight” was the title of an address delivered by Dr. Arthur J. Bedell, of Albany, which was reproduced in the *New York State Journal of Medicine*. He said the testing of the eyes was a highly technical art and should be done by some one who was also competent to give an opinion on the general health of the patient. Need to change glasses frequently was an indication of either a constitutional or a local eye disease and called for a searching examination.

One common cause for failing vision was cataract. This is a clouding of the lens of the eye and may grow slowly or rapidly. If the sight is poor, the cataract can be removed. Serviceable vision is usually restored. No medical treatment ever changes the course of a senile cataract. Glaucoma is a hardening of the eyeball. In one form there is redness of the eye, accompanied by sudden loss of sight, pain, nausea, vomiting and the symptoms of a gastrointestinal upset. An early operation may restore the sight. The second form causes no pain and gradually encroaches on the field until only the central vision remains. In its earlier stage it can be checked. When a patient has transitory attacks of blurred sight, he should at once consult an eye specialist.

High blood pressure is often diagnosed by the ophthalmologist in his routine examination of the eyes. The nearsighted child who persists in reading in a dim light, the person who uses alcohol or tobacco to excess and the woman who tries to remove superfluous hair with drugs, all risk their vision. Some eye troubles are hereditary and may be cured or retarded by early attention, although a few are beyond help.

The retina may be separated from its base by a growth beneath it, by a blow or by progressive nearsightedness. The

patient becomes conscious that a portion of his field of vision is absent or that a floating cloud covers his sight. Medical care is called for. General diseases cause poor sight. In scarlet fever the patient may have kidney complications leading to retinal disease. Diphtheria and diabetes may also affect the eyes.

While good lighting aids the vision, it does not eliminate the need of glasses. These should be worn by all who would benefit by them.

## The Way to Rest

**T**O UNDERSTAND how to rest is of more importance than to know how to work. The latter can be learned easily; the former it takes years to learn, and some people never learn the art of resting. It is simply a change of scenes and activities. Loafing may not be resting. Sleeping is not always resting. Sitting down for days with nothing to do is not restful. A change is needed to bring into play a different set of faculties, and to turn the life into a new channel. The man who works hard, finds his best rest in playing hard. The man who is burdened with care, finds relief in something that is active, yet free from responsibility. Above all, keep good natured, and don't abuse your best friend, the stomach.—*American Analyst*.

## Drugs May Impair the Hearing

**T**HE number of persons with impaired hearing in this country has been estimated as high as 17,000,000. Examination of hundreds of thousands of school children has revealed a tremendous amount of unnoticed incipient deafness. The American Federation for the Hard of Hearing has been formed to acquaint the public with the situation and to do what is possible to check the evil. It has been proved indisputably that deafness or a predisposition to it are hereditary.

The opinion now prevails that the eighth nerve of a child which may have inherited constitutional factors tending to deafness, is far more susceptible to the effects of colds and bacterial toxins than a normal one.

Dr. George E. Coleman, writing in *California and Western Medicine*, declares that any individual with a damaged eighth nerve, or one which because of heredity, tends to early atrophy, comes in the same category as to the effects of certain drugs currently used in general practice and perhaps occasionally by ear specialists. Apparently not much thought has been given to the possible cumulative and permanent effects of many of these drugs upon the auditory nerve of a deafened individual. It may be that irreparable damage can be inflicted in such cases by even a minimal dosage. While little can be done for hereditary disposition to disease, we can to a considerable extent control or combat the environmental factors which initiate its progress. The salicylates and alkaloids are especially to be suspected of a deleterious effect on impaired hearing.

Dr. Coleman evidently thinks that the whole business of taking drugs is much overdone. He says: “A fool may be born every minute, but if the present rage for drugs continues, they will soon beat that record.”—S.

## Valuable Advice

**“MARK THIS,”** wrote Oliver Wendell Holmes, “that I am going to say, for it is as good as a working man's professional advice, and costs you nothing: It is better to lose a pint of blood from your veins than to have your nerves tapped. Nobody measures your nerve-force as it runs away, nor bandages your brain and marrow after the operation.”

Animals feed, man eats; tell me what you eat, and how you eat, and I will tell you what you are; the man of intellect alone knows how to eat. — *Brillat Savarin*.



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## The Chinese Method of Making Malt Sugar

FROM a letter received from an American friend in Shanghai, we quote the following description of the Chinese method of making malt sugar, which is known in this country as Dextrimalt, or Meltose, or Malt Honey:

"The process they use is very simple. They buy one hundred fifty pounds of the broken rice kernels, those particles that come down through the screen as they grade the rice, which they buy very cheap. This they steam until it is thoroughly cooked, stopping just before the grains stick together and lose their shape. Then they sprout the barley, which takes about five days, to about a half inch long. This they grind up in a stone burrowed mill, adding a little water, which makes a liquid pulp mixture. This is added to the cooked rice and is thoroughly incorporated by means of a stirring process that they work very carefully, but a dough mixer would do the job just as well. After that, this rice, in which the barley malt is thoroughly incorporated, is placed in a large vat and left to stand for nine hours. When all the starch is reduced to sugar, it drains down into a tank and about four pails of water are thrown over this to wash down all the sugar that is in the pulp. After this is thoroughly filtered out they boil down the liquid in an open kettle."

SPeAKING to the annual American Speech convention in Chicago, Dr. Frederick W. Brown, of Floral Park, N. Y., condemned using baby talk to children. To encourage them or to indulge them in it will retard their general learning. Poor comprehension in children of the seventh and eighth grades has been traced to the fact that they were baby talkers in infancy.



# THE POSTURE PANEL

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# In Which We Answer a Question Often Asked

**M**ANY people who have never visited Battle Creek ask the question: "What is the Battle Creek Sanitarium?"

The answer is that the Battle Creek Sanitarium is primarily an up-to-date, scientific medical institution.

On the staff are fifty physicians, several of them of international reputation. Treatment of nearly two hundred thousand patients for almost every known type of disease over a period of fifty years, has given the Sanitarium a background of knowledge and experience probably surpassed by no other medical institution.

The Sanitarium has brought together under unified control all the resources that modern medical science has to offer in the diagnosis and treatment of disease. To this end no expense has been spared. Members of the staff are always on the alert for new developments and are quick to employ them as soon as they have proved their value.

Experience has shown that there are three distinct types of benefits that medicine can confer upon mankind:

**First: Health education**—that is, teaching people how to live in order that their bodies may function with maximum efficiency, thereby avoiding disease and premature old age.

**Second: Taking bodies** that have been abused by improper living and, by corrective measures, restoring damaged parts to normal functioning.

**Third: Alleviation** of the suffering and extension of the life expectancy of those af-

flicted with incurable diseases, by means of carefully controlled treatment and a program of right living

This calls for many and varied applications of modern medicine. Diet and advanced therapeutic methods constitute a very important part of the treatment, but surgery has its place and is used when necessary. A complete modern hospital is part of the Sanitarium equipment.

To the Battle Creek Sanitarium medical science owes many fundamental discoveries of great importance. Research work is continually in progress. Two scientific laboratories are maintained for the study of nutritional problems and the relations of foods to disease. The X-ray department is recognized as one of the most complete in existence and out of it have come many important advances in technique and treatment.

The program of diagnosis, treatment and health by training that is known as the Battle Creek Idea, has penetrated to the most remote corners of civilization. To the Battle Creek Sanitarium, therefore, come thousands of people each year — from all walks of life and from all parts of the world — with assurance that here they will receive all the benefits that modern medical science has to offer.

Those who desire more detailed information about the Battle Creek Sanitarium and its methods are invited to write for descriptive literature. Address—

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*Looking through the Magnificent Colonnade,  
Main Building of The Battle Creek Sanitarium*

## The Battle Creek Sanitarium